

METHODS FOR FORMING SEMICONDUCTOR DEVICES INCLUDING THERMAL PROCESSING

Abstract

5 Methods for fabricating semiconductor memory devices may include
forming a first conductive layer for a first electrode on a semiconductor substrate,
forming a dielectric layer on the first conductive layer, and forming a second
conductive layer for a second electrode on the dielectric layer. Portions of the
second conductive layer and the dielectric layer can be removed, and a thermal
10 process can be performed on the second conductive layer and the dielectric layer.
The thermal process can reduce interface stress between the second conductive
layer and the dielectric layer and/or cure the dielectric layer. In addition, the
dielectric layer may be maintained in an amorphous state during and after the
thermal process.